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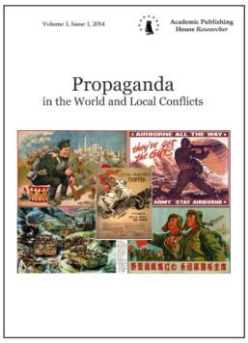

Technical Means of Propagandists

Combat Auto-Printing Mobile Unit BPK-63MKL

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Abstract

Distribution of printed materials in the combat zone can be used both to raise the units' morale (publication of newspapers and military leaflets of military units) and to demoralize enemy units (publication of anti-military propaganda materials). Combat auto-printing mobile units are produced in the armies all over the world for these purposes. BPK-63MKL is one of the models of the combat auto-printing mobile units in the Russian army.

Open sources (auction data, technical information of the manufacturer, etc.) were used as materials in this work. General scientific traditional methods of analysis, synthesis, concretization and generalization were used in the research. The historical comparative method was used to reveal and characterize the general and the particular aspect in the selected materials. We also applied the method of generalization of the information on the studied subject.

The author comes to the conclusion that the combat auto-printing mobile unit BPK-63MKL is the new generation weapon of the Russian army and it fully meets the modern requirements for the weapon of the propagandists. Despite the lack of feedback on this product from the military conflicts zone, the combat auto-printing mobile unit proved itself during maneuvers and exercises.

Keywords: combat auto-printing mobile unit BPK-63MKL, weapon of the propagandists, Russian army.

1. Introduction

There are numerous technical means in the arsenal of propagandists aimed at the sound impact (radio and megaphone devices)[1] as well as the printed materials impact. Distribution of printed materials in the zone of local or international conflict can be used both to raise the morale of their own units (publication of newspapers and military leaflets of military units) and to demoralize enemy units (publication of anti-military propaganda materials). Combat auto-printing mobile units are produced all over the world for these purposes. BPK-63MKL is one of the models of the combat auto-printing mobile units in the Russian army.

2. Materials and methods

Open sources (auction data, technical information of the manufacturer, etc.) were used as materials in this work. General scientific traditional methods of analysis, synthesis, concretization

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[1] For example, the radio broadcast was actively used during the civil war in Spain (Ribeiro, 2014).

and generalization were used in the research. The historical comparative method was used to reveal and characterize the general and the particular in the selected materials. We also applied the method of generalization of the information on the studied subject.

3. Discussion and results

Due to the fact that the combat auto-printing mobile unit BPK-63MKL wasn't tested in the military zone it has no feedback in the press. Nevertheless, it proved itself during the military exercises. In 2010 BPK-63MKL was used in the military exercises "Vostok-2010" and was planned to be used during the strategic military exercises "Tsentr-2011" (Belousov, 2011). General V.M. Smyslov, commander deputy for personnel of the Central Military District in his review noted that "the technical capabilities of BPK-63MKL make it possible to ensure not only the preparation and publication of a full-fledged edition of the brigade newspaper, but also other small printed materials for the participants of the exercises. Moreover, the auto-printing mobile unit will become a material basis for the functioning of the editorial office of the district newspaper" (Belousov, 2011).

BPK-63MKL was designed in the early 2000's at the 106th Experimental Optical-Mechanical Plant in Moscow. It was created in the department of the Development of technical means of computer systems and industrial automation (Russian arms forum). In 2005 the combat auto-printing mobile unit BPK-63MKL was included in the inventory of the Russian army (Bashlakov, 2009). The main purpose of BPK-63MKL is to ensure the prompt publication of multi-colored printing products in A3 format. In addition, it is possible to publish printed materials using data obtained from artificial earth satellites using the set of satellite equipment installed in the mobile unit.

Fig. 1. Combat auto-printing mobile unit BPK-63MKL

BPK-63MKL is mounted in the K1.4320 van on the chassis of the URAL 43203-31 vehicle (Fig. 1). BPK-63MKL is powered by the ED16-T400-1VK diesel power station, installed on the PPU-4,5 van on the chassis of the 2-PN-4M biaxial trailer or from an external three-phase network with a voltage of 380 V, 50 Hz with isolated neutral connection.

The mobile printing unit is operated by the crew of four:

- Senior layout designer, operator of the "Granat-630" the mobile printing unit chief;
- Layout designer, satellite communications operator;
- Typographer;
- Driver-electrician-technician.

Combat auto-printing mobile unit BPK-63MKL set-up:

Typographical equipment is installed in a special van with two sections separated by a partition with a door:

- Editorial and publishing section (prepress area);
- Printing section (Fig. 2).

The editorial and publishing section has the following main equipment:

- Two workplaces for the printing layout on the basis of two industrial PCs of the KI-MP type with installed software (Fig. 3);
- An A3 laser printer and an A4 flatbed scanner with a slide module;
- A secure portable PC, a digital SLR camera with a TFT color monitor with a resolution of 8 million pixels for field operation;
- A workplace for the "Granat-630" laser form machine operator (106 eksperimental'nyi...).

Let us review the equipment more thoroughly. The basic version includes the industrial PCs KI-MP LKNV.466215.007 TU with the following characteristics: PIII-1133 processor, RAM – SDRAM 512 Mb, 40 Gb HDD, 3,5" drive; CD-RW drive; PCI Direct PC and PCI Pent@NET boards for the reception of the Russian technical information channel; IPC-6806 case, PS/2 keyboard and a PS/2 mouse.

In addition, the editorial and publishing section equipment :

- An HP LJ 5100DTN network printer with a duplex A3 unit;
- An HP ScanJet 5470C A4 flatbed scanner;
- A workplace for the editor with a portable Roverbook Discovery AT6 PC and a digital Olympus C-2020ZOOM camera;
- A workstation for the laser LFA-M laser form machine operator, used for the production of offset printing plates of A3 format and image scanning.

Each workstation as well as the LFA-M operator's workplace is equipped with an uninterruptible power supply that allows completing the printing in the event of an emergency power outage.

The printing site is equipped with a "Romayor" offset printing machine.

The climatic conditions inside the mobile unit are supported by the OVU-65 heating and ventilation unit and 1K38-1 industrial air conditioning unit.

The equipment is powered both by the industrial 3-phase network of an alternating current of 380V 50 Hz, and by a mobile power station DES16-T400-1VK on a biaxial trailer (Russian arms forum).

The printing site is equipped with an A3 offset printing machine.

The functions of the BPK-63MKL are the following. The technological equipment of the BPK-63MKL mobile printing unit allows editing and printing various types of multicolored materials.

The editorial and publishing section carries out the prepress process using the "computer-printed form" technology, namely:

- A set of satellite equipment ensures the reception and PC-processing the data transmitted from the satellite.
- Computing complex of the unit's publishing section, consisting of two PCs of the KI-MP type and a protected industrial PC of the "Panasonic" type, provides preparation of the A3-format publication, including set, layout and photo processing.
- The unit's publishing section is equipped with the "Granat-630" automatic laser printer that provides the output of an offset printing of 450x370 mm format, using special software.

Fig. 2. Editorial and publishing section

Fig. 3. Printing section

The printing section of the product provides printing of A3-format newspapers using an offset form made on a form-factor laser automatic machine in the publishing section.

Table 1. Tactical and technical characteristics of the BPK-63MKL auto-printing mobile unit (106 eksperimental'nyi...)

1	Maximum printing , prints per hour	7500
2	Minimum printing , prints per hour	2500
3	The size of the printing plates, mm	370x490x0,15
4	Continuous operation time, hours, not less than	8

5	Time of deployment of the unit by a trained crew (without taking into account the time for assembling, installing and tuning the satellite aerial), minutes, not longer than:	
	- in summer	35
	- in winter	40
6	Interval between failures, hours, not less than	500
7	Service life, years, not less than	12
8	Warranty period, years	5
9	Temperature in the printing unit at the ambient temperature in the range from minus 40 to plus 50 ° C, ° C:	
	- not less than	15
	- not more than	30
10	Overall dimensions of the unit (length width height), mm	13640x2820x3325
11	The full mass of the product when fully fueled and manned, with a crew of four (the weight of one crew member is considered to be equal to 100 kg), kg, not more than	18000±50

The cost of the unit. The unit's cost dynamics can be traced based on the government procurement data.

Table 2. The cost of the unit in 2007–2016, rubles. (Gostorgi 2007; Elektronnyi auktsion 2015; Elektronnyi auktsion 2016)

Name	years		
	2007	2015	2016
Combat auto-printing mobile unit (BPK-63MKL) OKPD 34.10.54.910 Special motor vehicles	34 000 000,00	18 370 000,00	25 094 690,97

From the Table 2 we can see that after 2007 the cost of the basic equipment was reduced. This significantly reduced the cost of the BPK-63MKL unit. Nevertheless, in 2015-2016 there was a tendency of increasing the cost of BPK-63MKL unit, which, in our opinion, may be due to inflation.

4. Conclusion

In conclusion we would like to note that the combat auto-printing mobile unit BPK-63MKL is the new generation weapon of the Russian army and it fully meets the modern requirements for the weapon of the propagandists. Despite the lack of feedback on this

product from the military conflicts zone, the combat auto-printing mobile unit proved itself during maneuvers and exercises.

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